

## **The Truth and Nothing But the Truth About Drivers**

**By J. Lynn Griffin**

Golfers will often ask “what is the hottest driver out there?” The real question is what driver will give them the most distance as if manufacturers are able to make one driver longer than the other. The fact is that in the past 7 years or more almost all drivers have the maximum COR/CT allowed by the USGA. In theory, all drivers should go the same length! This is not the case. One of the most important variables to consider is the effect of custom fitting.

The professional fitter will work with the golfer to find a club head model that maximizes ball speed in relation to swing speed. This ratio is called “Smash Factor” or “Power Transfer Ratio.” The objective is to achieve a PTR of 1.50 or a ball speed that is about 1½ times the speed of the club head. The fitter will also work on narrowing the dispersion rate, or the tightness of the shot pattern. One of the most critical aspects in the fitting is to find the proper launch angle for the golfer as this helps send the ball on the correct flight path which is instrumental in achieving the maximum distance. Closely related to the launch angle is the spin rate. Achieving the correct spin rate also helps establish the correct trajectory of the golf ball. To achieve the correct spin rate, the fitter will work with different shafts, lofts, and perhaps even the golf ball. Once all these factors have been matched for the golfer, the driver should be almost at its optimum. Ball speed, centeredness of hit on the club face, launch angle, and spin rate are all very important in building the “longest” driver. Equally as important is finding the perfect length of the driver for the player. The golfer has to be able to control what he is swinging. It is equally as important to find the correct MOI of the club for the individual also. Lastly, this writer is a firm believer in proper shaft orientation in the club head to produce consistency in driver performance.

A professional fitter will use a launch monitor and high speed camera to gather the necessary data in order to build the proper driver for the golfer. A variety of other items are used as well such as face tape and weights to work with impact location on the club face. Some golfers will also experience a benefit from a driver that is counter balanced. A qualified fitter will be able to determine this at the time of fitting.

An expert fitter will also consider what suits his player as far as the looks of the driver head. Such things as size of head, weight of head, and location of the center of gravity are all considerations when choosing a club head.

smaller heads equal more workability and ease of squaring the club face  
larger heads may have a bit more of a forgiving hitting area but are harder to square  
higher MOI clubs are also harder to square but you feel the head more  
lower and deeper center of gravity means a lower spin rate

Having the correct shaft and head combination is critical in the fitting process. The shaft, after all, is the engine of the golf club. The properties of the shaft will most certainly have an effect on the performance of the head. A shaft will alter spin rates and launch angle for example. A professional fitter will be able to determine what the proper shaft dynamics that properly fit your swing are. All shafts are not created equal by a long shot. With so many shafts available on the market today, how does one know what is correct for him. The answer is, he doesn't. That is where the fitter comes in and in the long run can save you a ton of time and money. Next time you're about to walk into that retail store and pick up the latest and greatest because "they" say it's hot and long, ask yourself, how many other "hot and long" drivers have you bought and here you are still looking. Do yourself a favor and consult a qualified professional fitter. You'll be glad you did!

### The Truth About Size! Big Isn't Better!!

Just when you thought it was safe to go back to the blogs!!! Here I am again bringing you the latest from PPGS FITTING CENTRAL. I would like to say what a pleasure it has been to meet and work with so many of you over that past couple months and I look forward to meeting more of you in the next few months. Many of you from the Inner Circle responded to the offer to get a driver like the one Don plays and the feedback has been great. Thanks to all of you that have purchased to date and for the very positive feedback on the performance of the driver. I have decided to extend the program for a few more weeks so those of you that are Inner Circle members that are interested, you can still contact me to order.

This week I had a fitting with one of our PPGS members that was rather unique in one respect but not so different from most of the others that I had done lately. The difference in this fitting was that it was with a former student of Don's back when he was on Hilton Head. We will call this person DN. Now, DN had scheduled an appointment for a lesson and a fitting well in advance and even contacted me a few days before he was due to arrive to give me some information regarding what he was currently experiencing with his present clubs. His frustration exuded from his email. No matter what he did, he hit the ball on the toe and it was very weak and inconsistent. Does this sound familiar to any of you? Several times I have seen postings from individuals on the blog wondering why they hit the ball on the toe of their clubs and what they could do to correct it. I've responded several times to these pleas for help and offered plausible explanations as to what could cause it. What I am getting ready to share will probably have most of you scoffing, some of you re-reading to make sure there wasn't a typo, and others sitting there in stunned disbelief.

After DN arrived, I examined his clubs as I do with all my clients then proceeded to hit a few

shots with a couple clubs. At this point, I will tell you that the set was a very nice looking set of new Pings with graphite shafts in regular flex with standard lies. The shots I hit were fair but I had to “work” to get the club to perform as I went to the longer irons. I asked DN to hit some shots. Sure enough, everything was out on the toe and just weak. He hit about as many pushes as he did pulls. I think the best way to describe the performance was inconsistent. Since this was a lesson/fitting, I approached some of the swing issues first. When I saw that DN had a grasp of the things I was asking him to do swing wise but the shots still didn't improve it was time to move to the fitting mode. I went back into the fitting lab as he was hitting balls and brought out a few clubs. I put one in his hand and KAPOW, immediate improvement. Even the sound was 100% better. He hit another, then another, then another. After about the 5<sup>th</sup> shot, I asked him for his evaluation. His response was that the shots were much more solid. He was able to hit the ball to his target. He could feel the club as he was swinging it. The really amusing thing to me was his comment about “even the miss-hits feel better and are more accurate”. So, what was the magic club that I gave him? I'll tell you later. The rest of this story is that I brought out about 5 more clubs for him to try and he hit every last one of them better than he did his irons. To make it even more incredible, some of the clubs that I gave him to hit had 6.0 and 6.5 rifle shafts. For those of you not familiar with these shafts, those bad boys are like telephone poles. I need to also tell you at this point that DN's swing speed is no where near fast and powerful and conventional wisdom would tell you that there is no way that he could hit anything with those shafts in the head. We've all heard that the shaft is the engine. I certainly agree with that. But, I think sometimes we try to drive the wrong car. Given the right head, DN was even able to hit very good irons shots with shafts that were way too stiff. So, what was the correct head?.....not yet.

I'm sure most of you that have been long time readers of the PPGS articles know that Don and I both are staunch supporters of smaller heads all be it drivers or irons. One of Don's favorite questions is “if bigger is better, how come we don't see bigger 3 woods?” I know the following may be redundant to many of the readers but I feel this bears repeating for those that are new or have not otherwise read this information before. The larger you make the head, whether driver or iron, you move the center of gravity further from the axis of rotation, the hosel, and this makes it increasingly more difficult to bring the toe back in to square up the club head. It requires more effort and force. So, for the slower swinger, lady golfer, senior golfer, or even weaker golfer, you are fighting the club in trying to square the club face up and hit a decent shot. Even with a good swing, you may never hit a good shot. Ask DN. Try as he might, the clubs he was swinging made it virtually impossible to hit a good powerful shot.

So, what was it that DN was able to hit so well. It was a BLADE! Now, for the sake of clarity, I will define what a blade is in my opinion. The concept of a BLADE is in reference to something capable of cutting. So, in order to cut, it has to be somewhat thin and sharp. So, by definition, a BLADE has a thinner, sharper line to it and is a smaller head by design. I categorize blades in two groups. You have your traditional muscle back blades and now with the advances in technology, you also have some cavity back blades. The similarity is that both are small and have thin top lines and thinner soles.

Now, at this point I'm going to address all the raised eyebrows and those that have shouted out, "hey, the manufacturers all tell us that the big head are more forgiving". First, just what is meant by forgiving in relation to golf clubs? The consensus is that it means you get better results out of poor miss-hits. But, how can a club be forgiving if it is also responsible at the same time for causing those miss-hits? Wrap your head around that one if you will! While nobody's swing is perfect, if you have clubs that are built correctly for you, you will not miss-hit as terribly as you have been lead to believe. I would like for everyone that is reading this that hits their clubs out on the toe constantly to raise their hand. I'd love to be able to see just how many hands went up!! The one major design factor that makes a club more game improving over another is not the size of the head but the amount of offset. Remember, you heard it here. OFFSET! Offset is one heck of an equalizer. Offset gives those with timing issues or "slow hands" a tad more time to get the club face to square. Players like Don with quick hands are negatively effected by offset. However, the majority of amateurs benefit from it.

Before I leave you with some numbers information, I'd like to share one more experience of the fitting with DN. As we got done with the irons, DN mentioned the driver fitting and that no matter what, he hit everything to the right with his driver. His driver is one of the Callaway FT series. First thing I did was let him hit a few shots. Sure enough, everything was weak right. So, what was the problem? His swing? Nope! His swing looked good still. I measured the length. TOO LONG! And, the head was too big for him to square. I went into the fitting lab and brought out one of the 355cc drivers with a shorter shaft and handed it to DN. Now, I don't remember just how many shots he hit but he was hitting a nice high soft draw and not once did he hit any weak bleeders right. He did make a few swings where he over rotated or tried to swing harder and came over the top but even then he hit a nice fade that came back into the middle. Evaluation: Bigger and longer ain't better!

I would like to leave you with some numbers that you might find quite unbelievable. In the last two weeks I have fit players that opted to forgo retro-fitting their current set and have a completely new set built for them. Those sets that were being played are as follows: Pings-4 sets, Cobra-1 set, Burner-1 set, Callaway-2 sets. Each player went with a set of blades as they all hit them better than the larger clunky heads that they were used to. What convinced them to go with blades? They hit them! Pure and simple. That is all it took. I asked each player had I asked them if they could hit a blade before we began the fitting what their response would have been. To the person, each one said the answer would have been no. I asked each one what their answer was now. The answer was a resounding YES!

Hopefully this information will get some thought processes started and eventually lead you to some discoveries that will enlighten you and help you find your way in the world of golf. Don't be afraid to ask questions and to go against the grain of conventionalism. Please don't accept with blind faith the advertising and media rhetoric that we are all bombarded with constantly on TV and in print. The primary objective of the OEMs is to keep you buying equipment and to make a profit. I'll leave you with this question, if you really are able to "buy a better game", then what would be the reason for you to keep buying more equipment?

J. Lynn Griffin  
Master Fitter/Builder

### **Is Long Really Longer?**

I had an opportunity to speak with Surge this afternoon and in the course of our conversation mentioned to him a particular fitting session that I had today with a long drive competitor. He asked me to share this information with the PPGS readers. We think you will find this eye opening.

We have watched as driver heads have gotten bigger and bigger over the course of the past few years. Something that has also been happening that has not been as well publicized is that shafts have also been slowly getting longer. Four years ago the average driver shaft length sold in retail shops was 45". Now you can find drivers with shafts that are over 46". A question that still begs to be asked is similar to one we asked about driver size. If big was so much better, then why weren't fairway woods getting proportionally bigger also? So, if longer is better, why aren't fairway wood shafts getting longer as well?

What the equipment companies will tell you is that by having longer and lighter shafts you can swing faster. In the first place, the error here is that it's not your swing speed that is important rather club head speed. Let's suppose that I gave you a stick that's 2 feet long and one that's 6 feet long and asked you to swing them, which could you swing faster? If you said the 2 foot stick, you are correct. So, if you can swing the 2 foot stick faster, it would also stand to reason that you would generate more speed at the end of the stick, in the case of a golf club, club head speed. Let's say that I also ask you to take the 2 foot and 6 foot sticks and quickly touch a mark on a wall. Which do you think you can move more quickly and accurately? If you said the 2 foot stick, right again!

I have proven that shorter shafts very often allow the golfer to generate more club head speed on many different occasions. But the experience today was by far the most eye opening event that I've had the opportunity to participate in. Let me first say that my client just won a regional long drive qualifier with a drive of over 350 yards into a 20mph head wind. Folks, this is quite impressive. What is even more impressive is that he did it with a driver that is anything but a standard long drive driver. A standard driver used by most LDA competitors measures 50" when stood on its tip and measured to the end of the grip. This equates to 48" when placed in the normal soled playing position. Also, most of these long ball hitters are using lofts of 6\* to 8\*. The winning drive that my guy hit was accomplished using a 44" driver with a loft

of 9.5\*. This is amazing. I can't even begin to tell you just how amazing. He said that he got all kinds of strange looks with such a short driver until he hit in competition.

In the fitting today, I tested him with 3 different lengths. They were 44.5", 45", and 45.5". He hit every drive with all three shafts dead center every single shot. This is amazing in itself that he has that good a swing. Usually long drive guys aren't known for great swings. However, he has one of the most perfect vertical swings that you'd ever want to see. When we finished testing and the data was assembled, we found that his club head speed was indeed higher with the shortest shaft. Also, when he reached back for a little extra, he was able to keep the short shafted driver well within the grid but with the long shafts the ball would "spray" and control became an issue. Fair warning to long driver guys out there, if 350 yards into a 20mph wind was obtained using a 9.5\* driver with too much spin, just wait and see what's going to happen with lower loft, lower spin, and a little dinky short shaft.

So, I ask, is longer better? I don't think so! Ask yourself this question also. If the average driver length of the best players in the world is only 44.5", why are equipment companies trying to shove longer shafts down our throats? Why are they trying to convince us that long shafts hit it longer. Remember, longer clubs can only hit it longer if you are able to swing the longer club as fast and hit it as solid. As most of you know by now, this is not the case particularly with the vertical swing.